OPERATOR MANUAL

61301604804 Rev. A

Castle®

7900
FLOOR LOADING
CART WASHER

OPERATOR MANUAL

Castle®

7900 FLOOR LOADING CART WASHER

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GETINGE Castle

OPERATOR MANUAL 61301604804

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Installation Instructions 61301604805

DESCRIPTION OF SYMBOLS AND NOTES IN MANUAL

The following symbols with related notes appear in this manual.

"Warning" notes alert the user to the possibility of personal injury.

"Caution" notes alert the user to the possibility of damage to the equipment.

"Notes" alert the user to pertinent facts and conditions.

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SPECIAL SAFETY INSTRUCTIONS

THE FOLLOWING SAFETY INSTRUCTIONS APPEAR WITHIN THIS MANUAL. READ THEM CAREFULLY BEFORE OPERATING THE UNIT.

"Warning" notes alert the user to the possibility of personal injury.

Running a Cycle **p. 3–4**

RISK OF INFECTION. This washer does not sterilize processed goods. Critical items that present a high risk of infection to a patient must be processed further by terminal sterilization before use. Failure to sterilize critical items could result in infection to patients.

BURN HAZARD. Do not open a washer door during a cycle. Doing so could release hot water through the door opening, resulting in burns to personnel.

BURN HAZARD. When a cycle is complete, washed goods are extremely hot. You must allow adequate cooling time before handling.

DANGER OF FALLING. The compartment's floor may be slippery when wet. When you are inside the compartment, walk carefully to maintain your balance and to avoid falls.

Emergency Stop **p. 3–10**

BURN HAZARD. Do not open a washer door for at least five seconds after stopping a processing cycle that was running a wash or rinse phase. This delay allows time for the spray manifolds to stop functioning. Otherwise, hot water could spray out of the door opening, resulting in burns to personnel.

BURN HAZARD. Do not enter a washer compartment immediately after stopping a processing cycle that have been running a drying phase. Allow sufficient time for all metal surfaces within the compartment to cool. Otherwise, hot surfaces may contact and cause burns to personnel.

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Section 1 General Description

Introduction

The Castle Model 7900 is a fully automatic, floor loading, hydro-spray cart washer with dual side-by-side wash compartments that is used to clean case carts, stands, utensils, containers, tote boxes, and similar bulk items.

Routine operation consists of loading the compartment, closing the doors, and touching a START button. The washer starts an operator-selected processing cycle and shuts off when the cycle is complete. The operator then opens the unload end doors and removes the load.

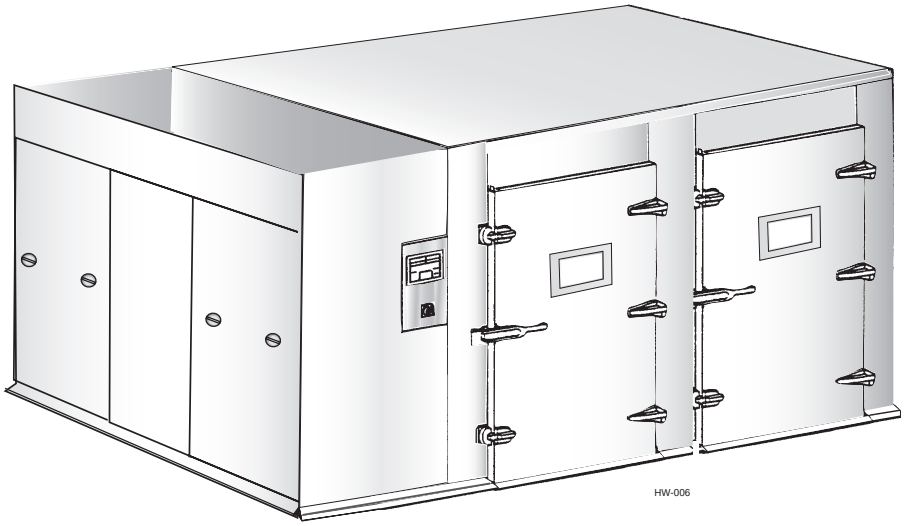
Treatment solutions are delivered by an oscillating (back and forth) manifold equipped with spray nozzles. Detergent and rinse aid solutions are dispensed automatically as a standard feature.

Processing cycles are set up using a programmable controller equipped with a touch screen interface (touch control panel). Four cycle definitions are possible. The operator needs only to select and start a cycle.

A standard cycle consists of the following sequential phases: wash, rinse, drying, and exhaust. The length of a cycle's phase can be adjusted at the touch control panel.

The washer can be installed in a shallow pit or at floor level. When installed in a pit, the floor of the washer's chamber is level with the room floor, which allows the direct loading and unloading of carts. When the washer is installed at floor level, the floor is higher than the room floor. Ramps are then provided as standard equipment to facilitate loading and unloading.

Figure 1–1. 7900 Floor Loading Cart Washer



Options

The 7900 washer may be equipped with the following options.

Cycle Printer

A strip chart recorder provides a printed record of performance during each cycle operation. Refer to Appendix A for more information.

Seismic Anchorage

The seismic anchorage kit is available when state or local code requires approved floor anchoring.

Accessories

The following accessories are available for the 7900 washer.

Floor Mounted Ramps

Stainless steel ramps are provided standard with the floor mounted washer.

Utensil Processing Cart

The WCY61301604959 cart can be equipped with a variety of holding racks for the processing of utensils such as rigid containers, tote boxes, bowls, basins, urinals, and bedpans.

Utensil Processing Racks

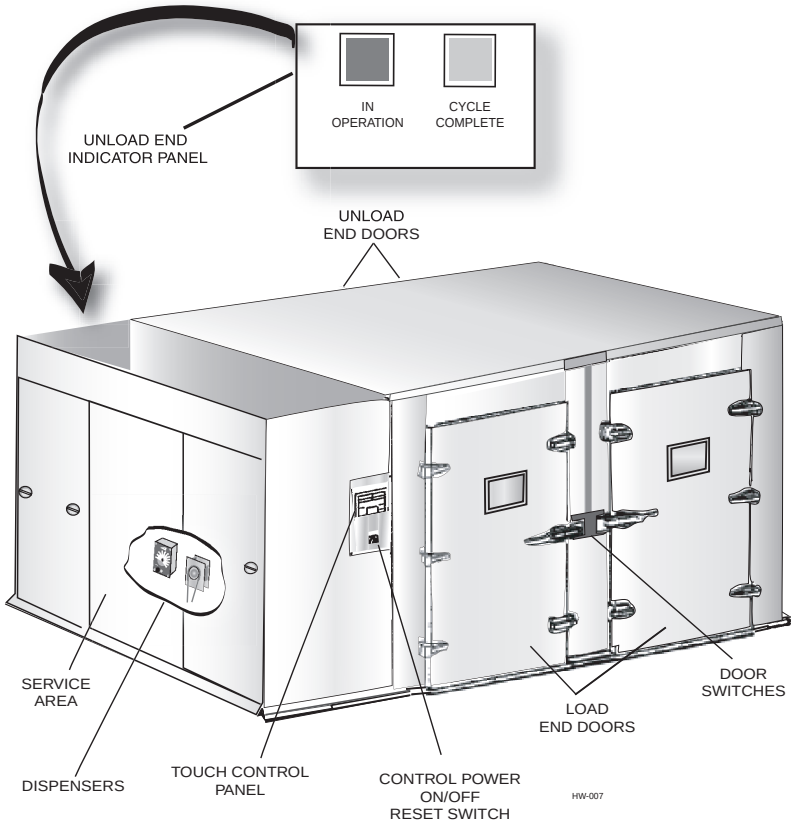
A number of different racks for a variety of utensils are available for the WCY61301604959 cart. These racks and the cart are listed in Table 1–1.

Table 1–1. Rack Accessories

Accessory	Description	Part No.
Catheter Tray Rack	Designed for ten catheter trays up to 3" (76 mm) wide by 1-1/2" (38 mm) deep.	45090
Bedpan Rack	Accommodates three adult, child, or fracture bedpans per rack. Also accommodates three large bowls or basins with maximum dimensions of 12-1/8" (308 mm) diameter by 4-1/2" (114 mm) deep.	45091
Male Urinal Rack	Designed to accommodate seven male urinals.	45092
Small Bowl Rack	Designed for bowls up to 2-1/2" (64 mm) deep by 5-3/4" (146 mm) in diameter. Rack is 36-7/8" (936 mm) long and accommodates twelve 5-3/4" (146 mm) diameter bowls.	45093
Large Bowl Rack	Designed for bowls up to 3" (76 mm) deep by 7-3/8" (187 mm) in diameter. Rack is 36-7/8" (936 mm) long and accommodates eight 7-3/8" (187 mm) diameter bowls.	45094
General Purpose Rack	Flattened expanded stainless steel mesh construction accommodates emesis basins, cups, beakers, funnels, catheter tray covers, etc.	45077
Large Basin and Bowl Rack	Designed for bowls and basins up to 16" (406 mm) in diameter by 5" (127 mm) deep, two basins per rack.	45095
Tote Box Rack	Accommodates two baskets or tote boxes with maximum dimension of 8-1/2" (216 mm) deep by 17" (432 mm) wide by 22" (559 mm) high.	45067
Shelf	Passivated stainless steel wire shelves adjustable without tools. Available for both dumbwaiter and standard size Castle carts.	511754

Exterior Components

Figure 1–2. Exterior Components



Unload End Indicator Panel

The IN OPERATION indicator lights yellow for the duration of an ongoing processing cycle. This indicator is located on the unload end of the washer. The CYCLE COMPLETE indicator lights green when the CONTROL POWER ON OFF/RESET switch is turned ON and there is no cycle running. The light turns off at the start of a processing cycle and lights again when the cycle is complete. This indicator is located on the unload end of the washer.

Doors

Provide access to the load and unload ends of the washer chamber. Each door is equipped with a sealing gasket, an observation window, and safety latches. The safety latches are designed to release a closed door when a moderate amount of physical force is applied against the door from the inside of the chamber. The doors have stops so they can be held open at 90 degrees for loading and unloading.

Door Switches

These proximity switches, mounted on all doors, stop washer operation if a door is opened during a cycle. The switches also prevent the start of a cycle if all doors are not closed properly.

CONTROL POWER ON OFF/RESET Switch

Activates and deactivates the washer controls. A green light illuminates the switch when it is in the ON position.

Touch Control Panel

Provides a touch screen interface to the washer's programmable controller located in the control box. The touch control panel enables the operator to select, program, and monitor processing cycles.

Dispensers

Pumps detergent and rinse-aid agent at the appropriate times in a processing cycle. Refer to "Treatment System" on page 1-7.

Service Area

Provides access to components such as plumbing, valves, pumps, holding tank, control box, and manifold drive motor. The service area is enclosed by removable panel sections.

Alarm (Not Shown)

Sounds an audible alert:

- When a cycle is completed.
- If an abort condition occurs.

Holding Tank (Not Shown)

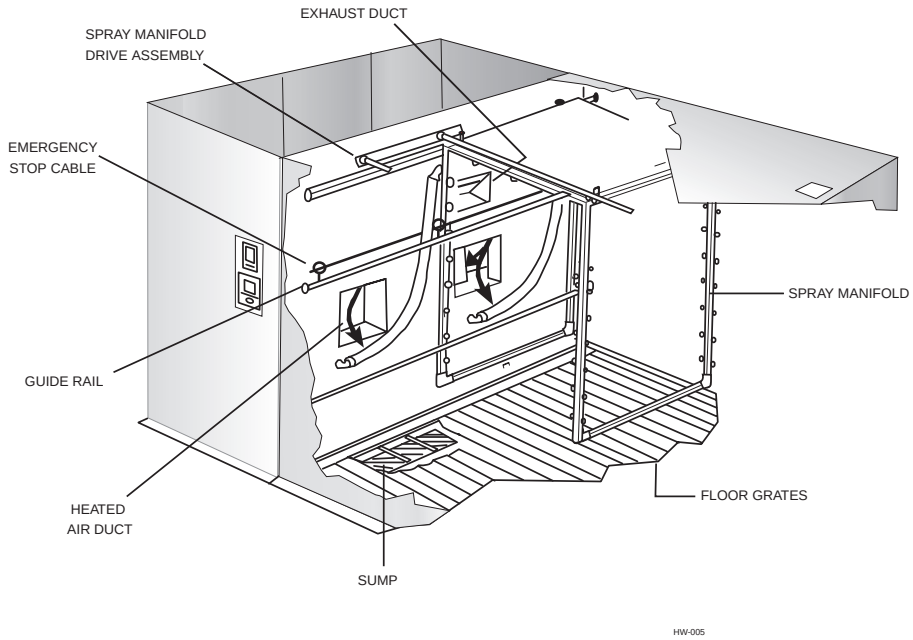
Serves as a reservoir for the detergent solution during the wash phase. Refer to "Treatment System" on page 1-7.

Pit (Not Shown)

Supports the bottom structure of the washer within a minimum 8-inch deep drained enclosure, enabling the washer's compartment to be situated at floor level for ease of loading and unloading.

Interior Components

Figure 1–3. Interior Components



Spray Manifold Drive Assembly

Continuously moves the manifold system back and forth along the length of the compartment during a processing cycle.

Exhaust Duct

The chamber includes a flanged vent to connect to the building exhaust system. The vent includes an automatic motorized damper that closes during heated cycle phases and opens during exhaust evacuation.

Spray Manifold

The manifold system consists of four vertical and two horizontal sections on each side of the washer chamber. The manifold sections are fitted with spray nozzles. Each section contains two independent wash and rinse manifolds.

Floor Grates

Provide load support and drainage during a processing cycle. Grates can be programmed to tilt during the cycle to prevent pooling and enhance drying. The grates can be removed to expose the sump.

Sump

Directs spent solution to the return pump so that it can be returned to the holding tank.

Heated Air Duct

Enables hot air to be circulated through the compartment to dry the load after the final rinse phase. Two ducts are located on each side of the compartment.

Guide Rails Restraints for loaded utensil carts to protect the manifolds when the floor tilts during the cycle. There are ten rails: three on the outside of each compartment and two on the inside of each compartment.

Emergency Stop Cable Safety feature that shuts down the washer pulled.

Chamber Light (Not Shown) A 75-Watt moisture-proof light assembly illuminates the interior when the power is on.

Treatment System

Debris Screens These in-line screens prevent jet clog and permit a free flow of treatment solutions. The debris screens are located in the holding tank and in a collar surrounding the return pump.

Drain Pan and Sump The sump is sloped to catch and direct spent treatment solutions to the return pump.

Solution Holding Tank The insulated external tank is the reservoir for the recirculation of water and is used to prepare wash solutions prior to the start of the wash phase. The solution is discharged to the drain when the tank cycle count is reached.

Return Pump The pump returns spent solution from the sump to the holding tank during a treatment phase.

Wash Pump The wash pump is a 7.5 HP unit to provide 40 PSI from the holding tank to the 4 GPM jets used on the wash manifold system.

Rinse Pump The 1.5 HP pump ensures 40 PSI rinse water to the jet spray nozzles on the rinse manifold.

Treatment Dispensers The washer is equipped with two dispensing pumps. The first pump injects detergent into the holding tank when it is initially filled for the wash phase and replenishes detergent in the tank before subsequent wash phases. The second pump dispenses rinse-aid agent, which is then mixed with the hot rinse water. Both pumps are volume adjustable and are sequenced by the microprocessor.

Drying System The washer is equipped with two steam heat exchangers and two high velocity 1 HP, 1300 CFM blower systems. Air is forced through the exchanger and heated to the temperature programmed for the drying phase of the cycle.

Evacuation The automatic damper opens to exhaust hot air to the building vent system at the completion of the drying phase.

Processing Cycle Description

The 7900 washer runs the following processing cycle.

Tank Fill

Hot water fills the holding tank while detergent is injected automatically. As the tank fills, the steam coil bring the water up to the programmed wash temperature of 140 °F to 185 °F (60 °C to 85 °C).

Wash

When the tank is full and has reached the programmed temperature, the wash solution is recirculated under pump pressure and sprayed over the load for the programmed time of 1 to 15 minutes. The steam coil maintains the wash water at the programmed temperature. At the completion of the wash phase, the wash solution remains in the tank until the next wash and the detergent is replenished for a programmed amount of time. When the tank cycle count is met, the tank is drained. The tank cycle count can be programmed to re-use water for up to 20 cycles. Prior to the start of the second cycle (and subsequent cycles until the cycle count is reached), additional detergent is dispensed into the tank.

Rinse

Fresh rinse water is mixed with rinse aid and sprayed over the load for the programmed time of 1 to 5 minutes. The rinse water is the temperature of the hot water supply, although it may be boosted by a steam heat exchanger. Spent rinse water is returned to the holding tank, which is replenished with detergent for use in the wash phase of the next cycle.

Drying

Two high velocity blowers force air through steam heat exchangers and directly over the load for very effective drying. The temperature of the air from the heater can be set for 200 °F to 240 °F (93 °C to 115 °C) and the drying time can be set for 0 to 15 minutes. During the drying phase, the automatic damper opens partially to exhaust saturated air into the vent system and reduce humidity during recirculation.

Exhaust

After the drying phase, the power damper of vented washers automatically opens for 0 to 99 seconds to exhaust moisture-laden hot air into the connected vent system.

Tank Drain

When the washer reaches its tank cycle count, the water is drained from the tank and refilled.

Section 2 Touch Control Panel

Overview

The touch control panel provides the operator with a touch screen interface to the programmable logic controller located in the control box.

The controls on the panel enable the operator to:

- Select and start a processing cycle.
- Review the phase settings for a cycle.
- Program or edit the phase duration and temperature for a cycle.
- Monitor the status of the cycle in progress.
- Manually drain the holding tank and sump.
- Fill the holding tank with fresh wash water.
- Extend the length of the phase in progress.
- Stop the cycle in progress.

Additional password-protected controls enable supervisory personnel to:

- Apply password security to prevent unauthorized personnel from programming one or more cycles.
- Access the load counters and time display.
- Prime and run the detergent and rinse aid dispenser pumps.
- Disable alarms for low levels in the detergent and rinse aid dispensers.

Description

NOTE

To activate the touch control panel, the PC POWER switch located near the bottom in the control box must be set to ON. This switch is normally set to ON at installation and left in that position.

When the touch control panel is activated, an indicator in the lower-left corner of the panel lights green and the screen displays the Power Up panel until communications with the processor is established and the Main panel appears. Although the panel is activated, the Main panel displays the CONTROL POWER IS OFF message until control power is applied.

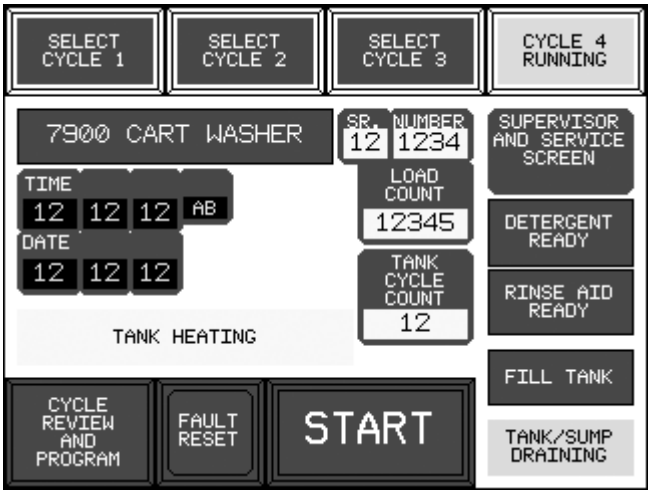
The touch control panel is operative when the washer's CONTROL POWER ON OFF/RESET switch is set to ON. When the panel is operative, the START button replaces the CONTROL POWER IS OFF message.

NOTES

- *All panel functions are inaccessible when control power is off.*
- *If the touch control panel remains idle and untouched for a one-hour period, the "screen saver" feature causes the panel to go dark. To illuminate the panel, touch the panel once anywhere on the screen.*

Main Panel

Figure 2–1. Main Panel



The center of the panel displays the following information about the washer:

- Serial number of the washer.
- Current TIME and DATE.
- The washer's current LOAD COUNT (the number of cycles that the washer has processed since the resetable counter was set).
- Message display area (refer to the table on page 3-7 for a list of messages).

- The number of cycles that are remaining (TANK CYCLE COUNT) before the holding tank is automatically refilled. This number counts down from the value defined on the Cycle Setup panel to zero (see page 2–6).

The Main panel also provides the following buttons:

SELECT CYCLE 1/2/3/4 / CYCLE 1/2/3/4 RUNNING

Enables you to select the desired processing cycle. When you touch a button, the label changes to CYCLE 1/2/3/4 RUNNING.

CYCLE REVIEW AND PROGRAM / CYCLE REVIEW ONLY

If the cycle is not protected (the button label is CYCLE REVIEW AND PROGRAM) touching this button displays the Cycle Setup panel (see page 2–6) for the selected cycle, which enables you to:

- change the duration for any phase.
- change the temperature for the wash or drying phase.
- determine how long detergent solution is pumped into the wash water during the cycle.
- set the number cycles that can run for each tank of wash water.
- set whether the floor tilt is used during the cycle.

If the selected cycle is protected (the button is labeled CYCLE REVIEW ONLY), touching this button displays the Cycle Review panel (see page 2–8), which allows you to view cycle parameters.

FAULT RESET

Clears the error condition in the washer's processor. If the error condition is caused by faulty equipment, you must correct the problem before you clear the fault and continue to operate the washer. If the fault occurs during a cycle, you must restart the cycle.

CONTROL POWER IS OFF / START

This button is labeled CONTROL POWER IS OFF when power to the washer is off. This label changes to START when the Control Power ON OFF/RESET switch is powered on.

SUPERVISOR AND SERVICE SCREEN

Displays a data entry keypad on which you must enter the supervisor password to access the Supervisor panel. This panel (see page 2–10) enables supervisory personnel to:

- turn protection for a cycle on or off.
- reset the daily load count.
- enable or disable detergent and rinse aid low level alarms.
- prime the detergent and rinse aid pumps.
- change the supervisor password.
- change the washer's system time and date.

DETERGENT / RINSE AID Status Indicators

These indicators display information about the detergent and rinse aid dispensers. One of these messages is displayed:

- DETERGENT/RINSE AID READY — this is the normal state for the dispenser when it is not pumping liquid to the washer.
- DETERGENT/RINSE AID RUNNING — the dispenser is currently pumping detergent or rinse aid into the wash or rinse water, respectively.
- DETERGENT/RINSE AID LOW FAULT — the detergent or rinse aid supply is low and should be refilled.
- DETERGENT/RINSE AID LOW FAULT OVERRIDE ON — the dispenser low level fault has been disabled and no detergent or rinse aid is being pumped into the treatment system.

FILL TANK / TANK FILLING

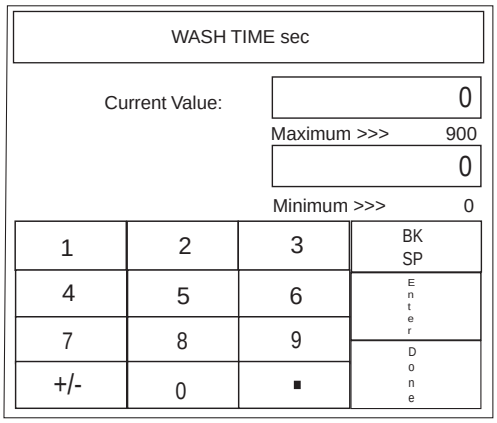
The FILL TANK button enables you to fill the tank manually before starting a cycle, assuming that the tank is already drained. During the fill process (manual or automatic), the button's label changes to TANK FILLING.

DRAIN TANK/SUMP / TANK/SUMP DRAINING

Manually drains the washer's sump and holding tank. After you touch this button, its label changes to TANK/SUMP DRAINING until all of the liquids are removed.

Numeric Keypad Panel

Figure 2–2. Numeric Keypad Panel



The top of the panel displays the parameter value that you are changing along with the value currently assigned to the parameter. As you touch the keys for the new value, the value is displayed. You can use the BK SP key to undo incorrect entries.

NOTE

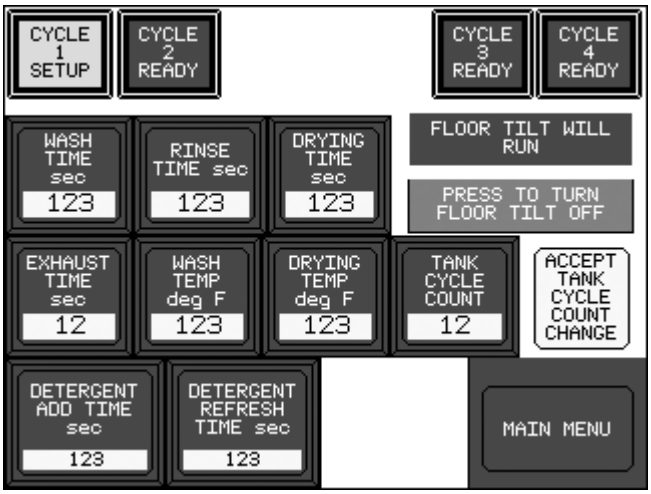
If applicable, the minimum and maximum limits to the value are displayed. The panel does not allow you to enter a value that falls outside this range.

1. Use the keypad to type the desired value and then touch Enter.
   Your entry now appears in the Current Value field.
2. Touch Done to close the Numeric Keypad panel and return to the applicable panel.

Cycle Setup Panel

The Cycle Setup panel appears when the cycle that was selected on the Main panel when you touched CYCLE REVIEW AND PROGRAM is “unprotected.”

Figure 2–3. Cycle Setup Panel



CYCLE 1/2/3/4 SETUP / CYCLE 1/2/3/4 READY

These indicators display CYCLE 1/2/3/4 SETUP for the cycle that was selected when you touched CYCLE REVIEW AND PROGRAM from the Main panel. This is the cycle whose parameters are displayed and that you can change. The other three indicators display CYCLE 1/2/3/4 READY. Touching one of these buttons selects the cycle.

NOTE▶

The cycle that is selected on this panel when you return to the Main panel is the current cycle.

WASH/RINSE/DRYING/EXHAUST TIME

Displays the duration for the wash, rinse, drying, and exhaust phases. Touching one of these buttons displays a data entry keypad, which enables you to change the time for that phase.

WASH/DRYING TEMP

Displays the current temperature setpoints for the wash and drying phases. Touching either of these buttons displays a data entry keypad, which enables you to change the temperature value for that phase.

NOTE▶

The setpoint for the rinse phase can only be set by authorized service personnel. The rinse setpoint is the same for all four cycles.

TANK CYCLE COUNT

Displays a data entry keyboard, which enables you to specify the number of cycles that can run before the tank is drained and refilled. You can specify up to 20 cycles.

PRESS TO TURN FLOOR TILT ON / FLOOR TILT WILL RUN
PRESS TO TURN FLOOR TILT OFF / FLOOR TILT IS OFF

These two buttons allow you to enable or disable the power floor tilt feature for the cycle. If you touch PRESS TO TURN FLOOR TILT ON, the first button changes to FLOOR TILT WILL RUN and the second button changes to PRESS TO TURN FLOOR TILT OFF. Likewise, if you touch PRESS TO TURN FLOOR TILT OFF, the second button changes to FLOOR TILT IS OFF and the first button changes to PRESS TO TURN FLOOR TILT ON.

ACCEPT TANK CYCLE COUNT CHANGE

Applies the change you made using the TANK CYCLE COUNT button and displays the value on the Main panel. The washer must then run that number of cycles before the holding tank is automatically drained.

When changing the tank cycle count, you must drain the tank before starting another cycle. When you change the cycle count, the washer restarts its count at zero. Failure to drain the tank can reduce the effectiveness of the washer cycles.

DETERGENT ADD TIME

Displays a data entry keyboard, which enables you to specify the length of time, in seconds, that detergent is dispensed while the tank is filling.

For more information about determining the correct time, refer to “Detergent Time Calculations” on page B-1.

DETERGENT REFRESH TIME

Displays a data entry keyboard, which enables you to specify the length of time, in seconds, that detergent is dispensed into the holding tank at the start of the wash phase.

For more information about determining the correct time, refer to “Detergent Time Calculations” on page B-1.

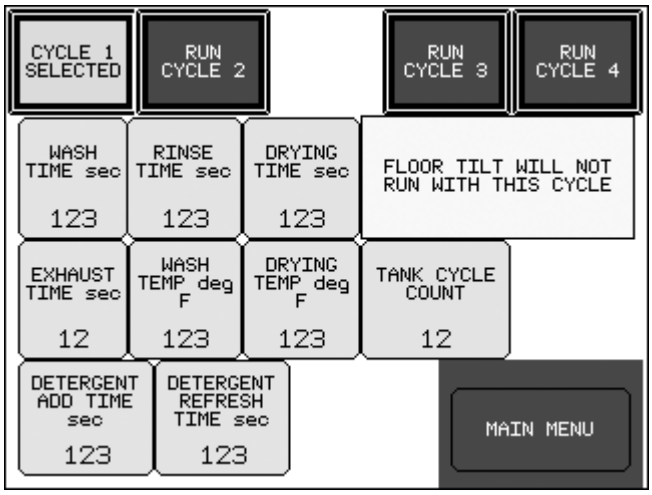
MAIN MENU

Returns you to the Main panel. The cycle that was displayed when you touched this button is the currently selected cycle on the Main panel.

Cycle Review Panel

The Cycle Review panel appears when the cycle that was selected on the Main panel you touched CYCLE REVIEW ONLY is “protected.”

Figure 2–4. Cycle Review Panel



These indicators display CYCLE 1/2/3/4 SELECTED for the cycle that was selected when you touched SELECT CYCLE 1/2/3/4 from the Main panel. The other three indicators display RUN CYCLE 1/2/3/4.

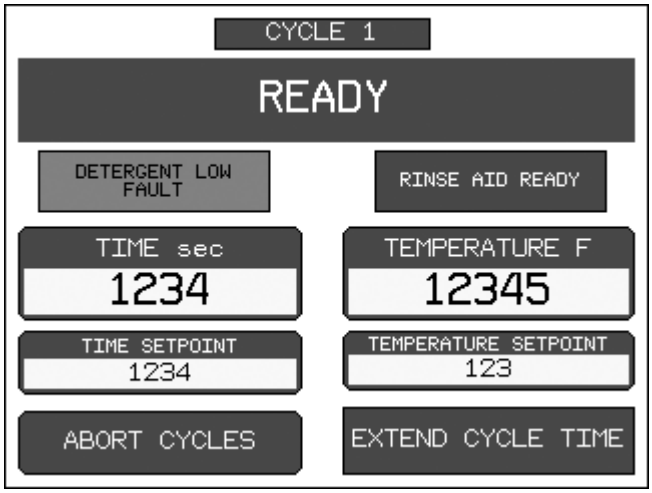
NOTE▶

The cycle that is selected on this panel when you return to the Main panel is the current cycle.

The remaining indicators on this panel display the current parameters for the selected cycle. The indicators on this panel are similar to those that appear on the Cycle Setup panel (see page 2–6), except that you can not change any of these parameters and that the indicators on this panel are light blue (they are dark blue on the Cycle Setup panel).

In Cycle Panel

Figure 2–5. In Cycle Panel



This panel appears while a cycle is processing and displays progress information about the cycle, including status and error messages. The selected cycle is displayed at the top of the panel. You can use this panel to stop or extend the time of a cycle.

DETERGENT and RINSE AID Status Indicators

These indicators display information about the detergent and rinse aid dispensers. One of these messages is displayed:

- DETERGENT/RINSE AID READY — this is the normal state for the dispenser when it is not pumping liquid to the washer.
- DETERGENT/RINSE AID RUNNING — the dispenser is currently pumping detergent or rinse aid into the wash or rinse water, respectively.
- DETERGENT/RINSE AID LOW FAULT — the detergent or rinse aid supply is low and should be refilled.
- DETERGENT/RINSE AID LOW FAULT OVERRIDE ON — the dispenser low level fault has been disabled and no detergent or rinse aid is being pumped into the treatment system.

Current TIME

Displays the time remaining (in seconds) for the current phase of the cycle.

Current TEMPERATURE

Displays the measured temperature (in °F) for the current phase of the cycle. The temperature that is measured depends on the phase:

- Wash — water in the holding tank.
- Rinse — rinse water (supplied or steam boosted hot water).
- Drying — average heated air temperature of the two dryers.
- Exhaust — not measured.

TIME SETPOINT

Displays the time duration that is programmed for the phase.

TEMPERATURE SETPOINT

For the wash and drying phases, displays the target temperature that is programmed for the phase. For the rinse phase, this indicator displays the target temperature set up by service personnel at installation.

ABORT CYCLES

Suspends operation of the washer and returns you to the Main panel.

EXTEND CYCLE TIME / CYCLE EXTENDED

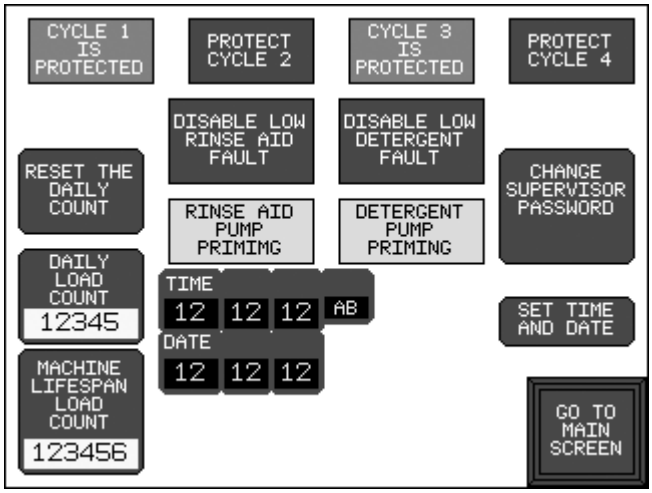
Extends the duration of the current phase of a cycle by a preset amount of time. The phase is extended by this amount each time you touch the button. You can use this button during a phase or during the fill prior to the start of a phase.

NOTE ▶

The default value for this extension is 10 seconds, although service personnel can change this value at any time to suit the needs of your facility.

Supervisor Panel

Figure 2–6. Supervisor Panel



This panel enables a supervisor to perform these administrative functions:

- change the supervisor password.
- specify one or more processing cycles as “protected.”
- reset the daily load counter.
- disable the low level dispenser alarms.
- prime the dispenser pumps.
- set the time and date.

PROTECT CYCLE 1/2/3/4 / CYCLE 1/2/3/4 IS PROTECTED

When a button is labeled PROTECT CYCLE n, touching the button protects the cycle from changes by a user to the time, temperature, and dispenser values. When the button is labeled CYCLE n IS PROTECTED, touching this button changes the cycle to “unprotected,” which means that an operator can change the cycle parameters using the Cycle Setup panel (page 2-6).

RESET THE DAILY COUNT

Touching this button resets the DAILY LOAD COUNT to 0.

DAILY LOAD COUNT

Displays the number of cycles that have run since the last time this counter was reset.

MACHINE LIFESPAN LOAD COUNT

Displays the number of cycles that have run since the washer was installed. You cannot reset this counter.

DISABLE LOW RINSE AID/DETERGENT FAULT / LOW RINSE AID/DETERGENT FAULT DISABLED

Disables the audible alarm when the detergent or rinse aid liquid supply is low and allows you to start new cycles despite the low level fault. Touching this button changes the label to LOW RINSE AID/DETERGENT FAULT DISABLED.

NOTES▶

- *When you disable the dispenser alarms, the detergent and rinse aid indicators on other panels displays DETERGENT/RINSE AID LOW FAULT OVERRIDE ON.*
- *When the alarms are disabled, it is possible to run a cycle without any detergent or rinse aid.*

PRIME RINSE AID/DETERGENT PUMP / RINSE AID/DETERGENT PUMP PRIMING

Touching one of these buttons starts the pump on the corresponding dispenser. The pump runs until you touch the button again.

CHANGE SUPERVISOR PASSWORD

Touching this button displays a data entry keypad, which enables you to change the supervisor password.

SET TIME AND DATE

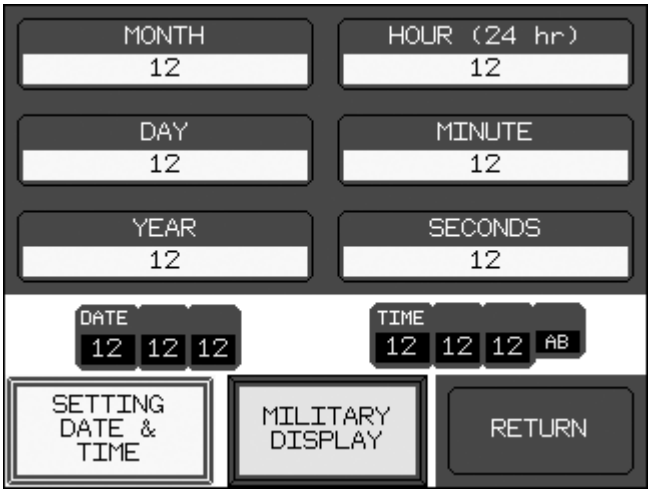
Displays the Time and Date panel (see page 2–12), which enables you to set the current date and time, and to select standard or military time.

GO TO MAIN SCREEN

Returns you to the Main panel.

Time and Date Panel

Figure 2–7. Time and Date Panel



This panel appears when you touch the SET TIME AND DATE button on the Supervisor panel. The current date and time are displayed on the panel.

MONTH / DAY / YEAR / HOUR / MINUTE / SECONDS

When you touch one of these buttons, a data entry keypad appears, which enables you to set the corresponding date or time parameter.

NOTE

You must enter the HOUR as a 24-hour value independent of whether the system is currently set for STANDARD DISPLAY or MILITARY DISPLAY.

SET DATE AND TIME / SETTING DATE & TIME

Updates the system date and time with the current values displayed in this panel. The button label momentarily changes to SETTING DATE & TIME.

STANDARD DISPLAY / MILITARY DISPLAY

Enables you to toggle between the display of the time in standard (10:30 PM, for example) and military (2230) form.

RETURN

Returns you to the Supervisor panel.

Section 3 Operating Instructions

General Washer Operation

Starting Up the Washer

NOTE ▶

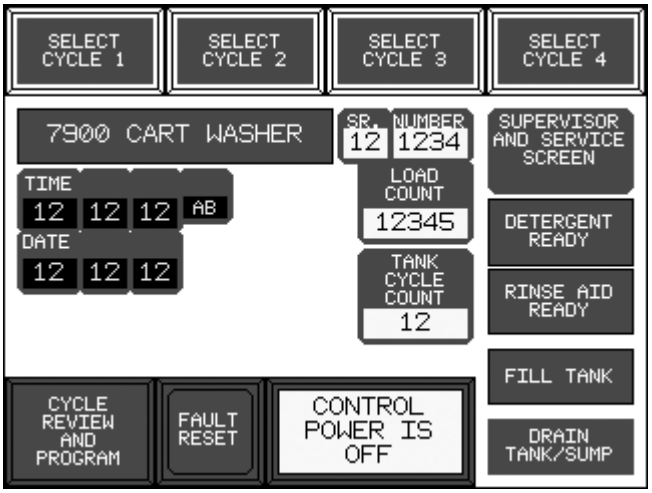
To activate the touch control panel, the PC POWER switch located near the bottom in the control box must be set to ON. This switch is normally set to ON at installation and left in that position.

1. If necessary, set the PC POWER switch to ON. The Power Up panel appears momentarily.

Figure 3–1. Power Up Panel

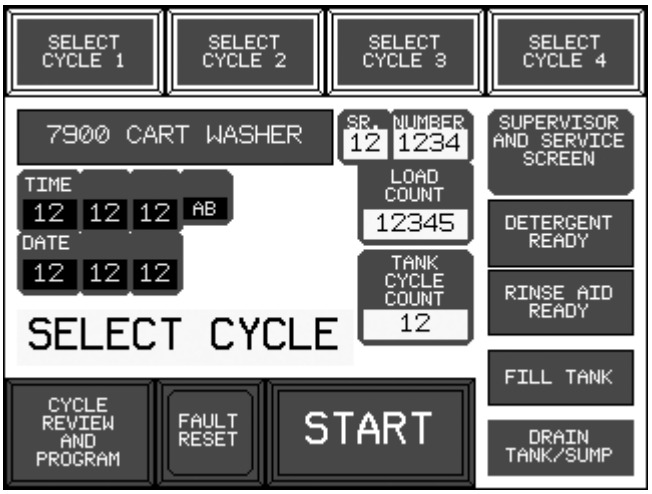
When the processor has established communications with the screen, the Main panel appears.

Figure 3–2. Main panel



2. To start up the washer, set the CONTROL POWER ON OFF/RESET switch to ON.
   The CONTROL POWER IS OFF button changes to START.

Figure 3–3. Main Panel



Loading a Utensil Cart

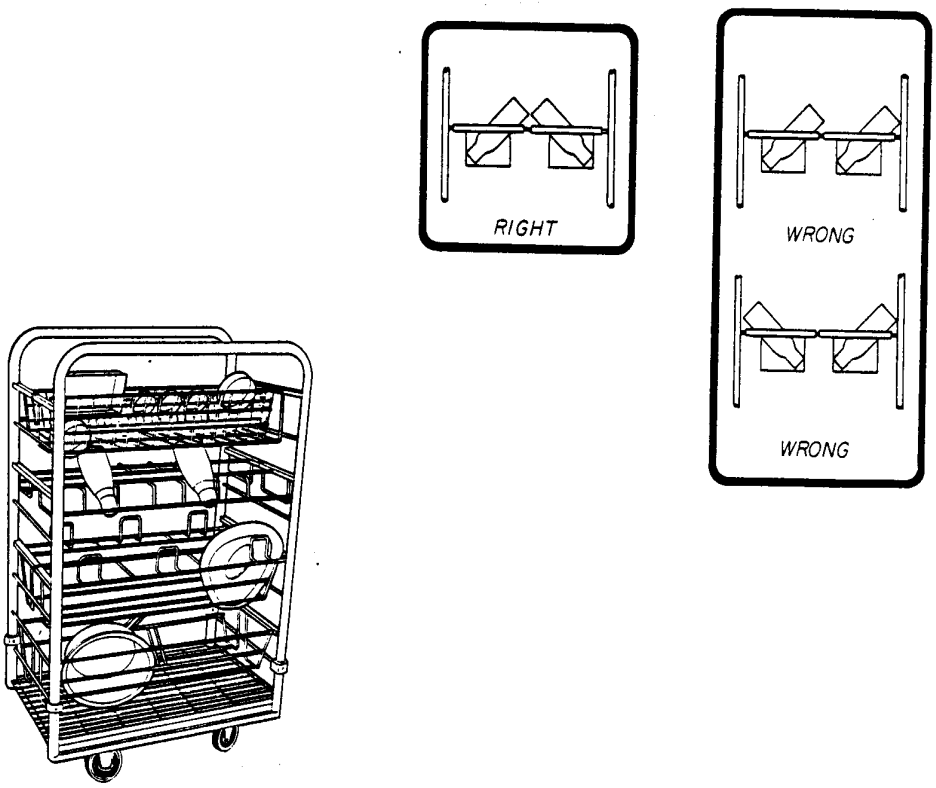
The utensil wash cart is designed to hold an assortment of racks (refer to Table 1–1 on page 1-3 for a list of available racks). You can arrange as many as eight racks on a cart. You can interchange racks as needed simply by lifting the rack off the cross rods, tilting it approximately 30 degrees, and either moving it to a different set of cross rods or removing it altogether.

When loading racks on a cart:

- Install the lowest rack first and work upwards.
- Make sure that the angled side of each rack faces the outside of the cart. This ensures that the items placed on the racks drain properly during a processing cycle.

Figure 3–4 below illustrates correct and incorrect ways to load a cart.

Figure 3–4. Utensil Wash Cart



Running a Cycle

The instructions in this section apply to the daily operation of the washer. The instructions assume that the washer has been properly installed and pre-tested, the washer is powered on, the compartment is clean, cycles have been programmed, the liquid dispensers have been set up, and optional equipment is ready for operation.

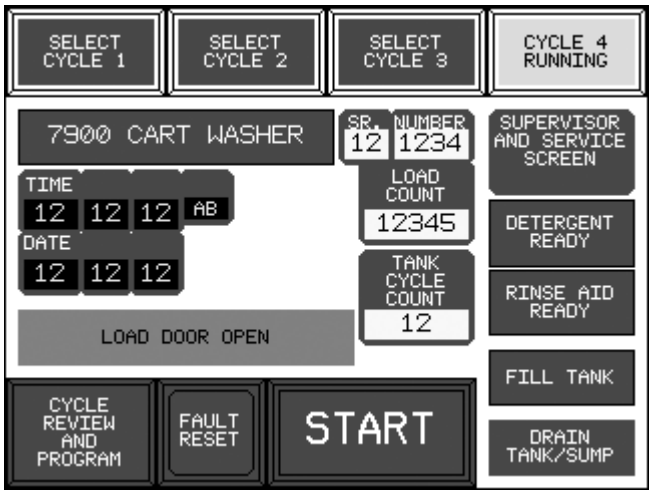
- *Risk of infection. This washer does not sterilize processed goods. Critical items that present a high risk of infection to a patient must be processed further by terminal sterilization before use. Failure to sterilize critical items could result in infection to patients.*
- *Burn hazard. Do not open a washer door during a cycle. Doing so could release hot water through the door opening, resulting in burns to personnel.*
- *Burn hazard. When a cycle is complete, washed goods are extremely hot. You must allow adequate cooling time before handling.*
- *Danger of falling. The compartment's floor may be slippery when wet. When you are inside the compartment, walk carefully to maintain your balance and to avoid falls.*

When loading the washer, make sure that nothing obstructs the back and forth movement of the motorized spray manifolds. Careless loading could result in damage to goods, equipment, or washer components.

- *The inside of each washer compartment is equipped with an emergency stop cable. If a door closes while you are inside the washer and a cycle starts up, pull on the emergency stop cable to stop washer operation immediately. Additionally, the load and unload end doors on the washer are equipped with safety latches that allow the doors to be forced open from the inside. If a door closes while you are inside the washer compartment, shove the latched side of the door to disengage the safety latches and spring the door back open.*
- *If the washer's holding tank is empty, you can touch the FILL TANK button on the Main panel to start filling the tank, and to allow the water to heat up while you are loading the washer.*

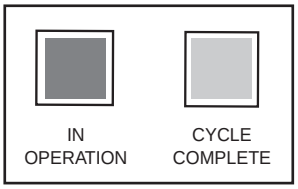
1. Open the load end doors and move the loads into the washer compartment.
   The message LOAD DOOR OPEN appears on the Main panel.

Figure 3–5. Main Panel



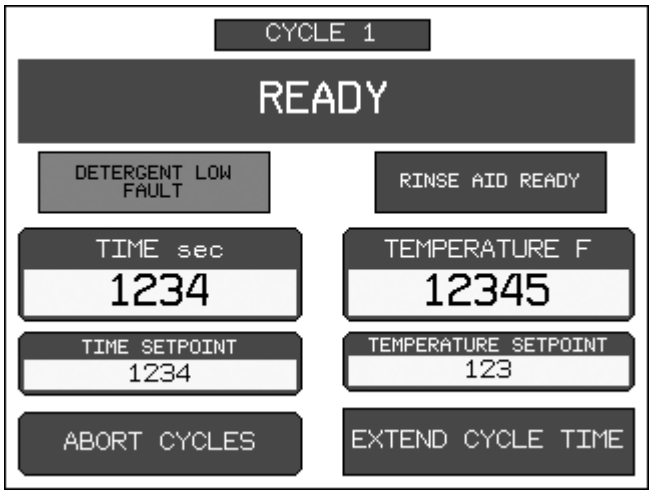
2. Close the doors securely.
   The green button (CYCLE RUNNING) at the top of the panel indicates the cycle that is currently selected.
3. If desired, touch one of the CYCLE buttons to select another cycle.
4. Touch START.
   On the unload end indicator panel (Figure 3–6), the green CYCLE COMPLETE indicator is extinguished and the yellow IN OPERATION indicator is illuminated.

Figure 3–6. Unload End Indicator Panel



The In Cycle panel appears.

Figure 3–7. In Cycle Panel



The selected processing cycle begins after a delay of about 10 seconds so that any residual pressure within the compartment can be relieved.

NOTE

This 10 second delay can be changed at any time by service personnel.

If necessary, the holding tank starts to fill for the wash phase. When the holding tank is full and the water temperature is at the programmed temperature, timing for the phase begins.
Refer to Table 3–1 on page 3-7 for the list of messages that may be displayed during a processing cycle.
During normal processing, the In Cycle panel (Figure 3–7) displays the time remaining, temperature, and time and temperature setpoints for the current phase of the cycle.
You can add processing time to the current phase by touching EXTEND CYCLE TIME (see “Extending a Cycle” on page 3-9).
Refer to “Error Messages” on page 5-1 for a list of error messages that may be displayed during the cycle.
When the cycle is complete, the yellow IN OPERATION indicator is extinguished on the unload end indicator panel, the green CYCLE COMPLETE indicator is illuminated, an intermittent alarm sounds, and the Main panel appears.

5. Open the unload end doors and remove the load.
   The alarm stops when you open a door and UNLOAD IN PROGRESS appears on the touch control panel.
6. Close the unload end doors.
   The panel displays the READY message.

Normal In-Cycle Messages

The table below provides a list of messages that may be displayed during normal error-free processing. If any error conditions occur that require stopping or restarting the cycle, refer to “Error Messages” on page 5-1 for a list of these messages and corrective actions.

Table 3–1. Normal In-Cycle Status Messages

MESSAGE	COLOR	EXPLANATION
ALL CYCLES DID NOT COMPLETE OPEN ANY DOOR TO RESET	Yellow	The washer was stopped before it could complete the current cycle.
CONDENSING	Green	The condenser in the dryer is running at the beginning of the drying phase.
CYCLE ABORTED	Yellow	The washer was stopped before it could complete the current cycle. After you clear the condition that caused the message, the “ALL CYCLES DID NOT COMPLETE; OPEN ANY DOOR TO RESET” message (above) appears.
CYCLE COMPLETE	Green	The exhaust phase is complete and the washer is ready to unload.
DETERGENT LOW	Red	The detergent dispenser’s supply is almost empty.
DRYER HEATING	Yellow	The dryers are heating to the temperature setpoint for the drying phase of the current cycle.
DRYING CYCLE	Green	The drying phase is currently running. The panel displays the time remaining for this phase.
EXHAUST CYCLE	Green	The exhaust phase is currently running. The panel displays the time remaining for this phase.
LOAD & UNLOAD DOORS OPEN	Red	Two or more doors are open.
LOAD DOOR OPEN	Red	The load end door is open.
READY	Blue	There are no error conditions and the washer is ready to start a cycle.
RINSE AID LOW	Red	The rinse aid dispenser’s supply is almost empty.

MESSAGE	COLOR	EXPLANATION
RINSE CYCLE	Green	The rinse phase is currently running. The panel displays the time remaining for this phase.
SELECT CYCLE	Yellow	Power has just been applied and you have not yet selected a cycle to run.
SUMP DRAINING	Green	Water is being removed from the sump.
TANK DRAINING	Green	Water is being removed from the holding tank.
TANK EMPTY PRESS “FILL TANK”	Yellow	When the washer is initially powered up (at the beginning of the day, for example) or after a manual drain, you must touch the FILL TANK button.
TANK FILLING	Green	The holding tank is being filled with hot water for the wash phase.
TANK HEATING	Yellow	The water in the holding tank is being heated prior to the start of the wash phase.
UNLOAD DOOR OPEN	Red	The unload end door is open.
UNLOAD IN PROGRESS	Yellow	Displayed when you open the unload end door after the cycle is complete.
WASH CYCLE	Green	The wash phase is currently running. The panel displays the time remaining for the wash phase.
WASH HEATING	Yellow	The tank water fell below the temperature limit during the wash phase.

Extending a Cycle

You can increase the processing time for any phase by using the EXTEND feature.

1. From the In Cycle panel (see Figure 3–6 on page 3–5), touch EXTEND CYCLE TIME.
   The phase is increased by a preset amount of time.

NOTE

The factory default to extend a phase is 10 seconds. This default can be changed by a service representative to suit the requirements of your facility.

2. To increase the phase by a longer increment, touch EXTEND CYCLE TIME one or more additional times. The length of the phase is extended by the preset amount each time you touch the button.
   For example, touch EXTEND CYCLE TIME three times to increase the length of the phase by 30 seconds.

Stopping during a Cycle

Refer to “Emergency Stop” on page 3-10 for instructions on stopping a cycle during a cycle.

Draining the Holding Tank and Sump

The holding tank and sump are normally drained at the end of the cycle specified by the TANK CYCLE COUNT. If you have to empty the tank and sump before that time, you must do it manually.

To drain the sump and holding tank.

1. On the Main panel, touch DRAIN TANK/SUMP.
   The button label changes to TANK/SUMP DRAINING until all the solutions are emptied from the sump and the holding tank.
   When the tanks are empty, the label changes back to DRAIN TANK/SUMP.

Shutting Down the Washer

The procedure below assumes that you are performing a normal shutdown of the washer and that the last cycle has been allowed to run to completion.

To shut down the washer.

1. If the tank did not drain automatically at the end of the last cycle, it is recommended that you drain the holding tank and sump manually before shutting down the washer (see “Draining the Holding Tank and Sump” on page 3-9).
2. Set the CONTROL POWER ON OFF/RESET switch to OFF.
   The START button on the Main panel changes to CONTROL POWER IS OFF.

Emergency Stop

WARNINGS

- *Burn hazard. Do not open a washer door for at least five seconds after stopping a processing cycle that was running a wash or rinse phase. This delay allows time for the spray manifolds to stop functioning. Otherwise, hot water could spray out of the door opening, resulting in burns to personnel.*
- *Burn hazard. Do not enter a washer compartment immediately after stopping a processing cycle that have been running a drying phase. Allow sufficient time for all metal surfaces within the compartment to cool. Otherwise, hot surfaces may contact and cause burns to personnel.*

Emergency Stop Using the ABORT CYCLES Button

To perform an emergency shutdown of the washer using the STOP button.

1. On the In Cycle panel (refer to Figure 3–7 on page 3–6), touch ABORT CYCLES.
   The cycle stops immediately and the Main panel appears.
2. If it is necessary to shut down the washer, set the CONTROL POWER ON OFF/RESET switch to OFF.
   The START button on the Main panel changes to CONTROL POWER IS OFF.

NOTE

When the CONTROL POWER ON OFF/RESET switch is set to OFF, the touch control panel remains in its current state, but all panel functionality is lost. When you set the switch back to ON, the Main panel may display messages corresponding to faults that you must clear before you can continue using the washer.

3. When you are ready to start the washer again, set the CONTROL POWER ON OFF/RESET switch to back to ON.
   The START button appears on the Main panel.
4. Touch START to restart the cycle.

Emergency Stop Using the CONTROL POWER ON OFF/RESET Switch

To perform an emergency shutdown of the washer using the CONTROL POWER ON OFF/RESET switch.

1. Set the CONTROL POWER ON OFF/RESET switch to OFF.
   The washer stops operating and the Main panel appears, and the START button changes to CONTROL POWER IS OFF.

NOTE

When the CONTROL POWER ON OFF/RESET switch is set to OFF, the touch control panel remains in its current state, but all panel functionality is lost. When you set the switch back to ON, the Main panel may display messages corresponding to faults that you must clear before you can continue using the washer.

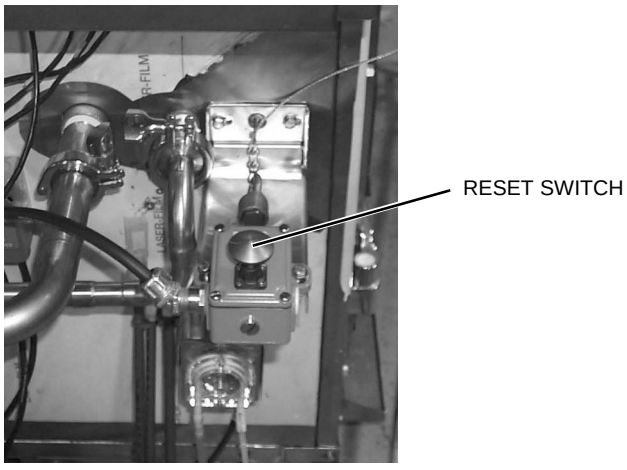
2. When you are ready to start the washer again, set the CONTROL POWER ON OFF/RESET switch to back to ON.
   The START button appears on the Main panel.
3. Touch START to restart the cycle.

Resetting an Emergency Stop Switch

If the washer was stopped by pulling on one of the emergency stop cables inside the washer, you must reset the switch before you can resume washer operation.

To reset an emergency stop switch, press the reset button on the appropriate switch.

Figure 3–8. Emergency Stop Switch Reset Button



The service side switch is located on the outside service side panel at the load end of the washer. The non-service side switch is located back side of the load end top panel.

Operating the Liquid Supply Dispensers

Description

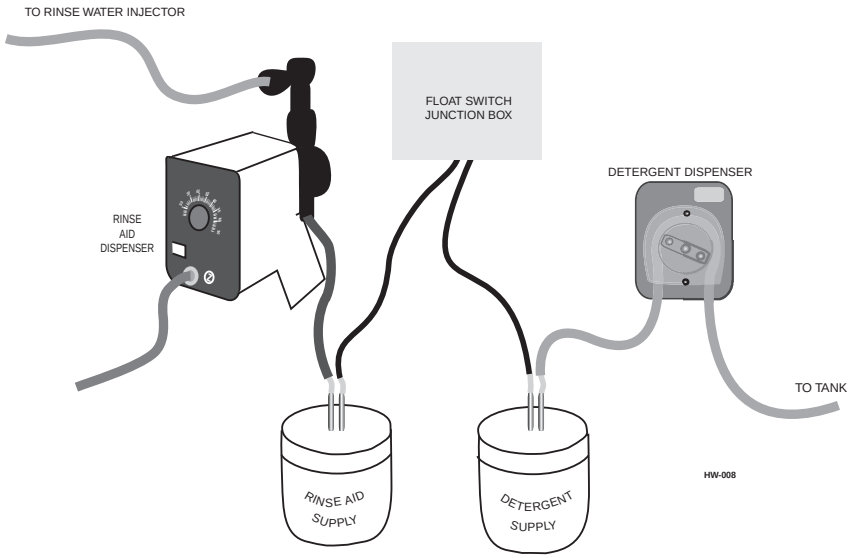
While the washer's holding tank is filling for the first cycle, the detergent dispenser automatically pumps liquid detergent into the hot water supply in the tank. The dispenser operates for the period specified by the DETERGENT ADD TIME on the Cycle Setup panel, after which it shuts off automatically. For more information about setting the DETERGENT ADD TIME, refer to "Detergent Time Calculations" on page B-1.

During the drying phase, the holding tank is replenished with detergent for the period specified by the DETERGENT REFRESH TIME on the Cycle Setup panel. For more information about setting the DETERGENT REFRESH TIME, refer to "Detergent Time Calculations" on page B-1.

Also during the rinse phase, rinse aid is injected directly into the rinse water before it is sprayed over the load in the washer.

Dispenser System Components

Figure 3–9. Liquid Supply Dispenser System



Checks Prior to Routine Operation

Before starting a cycle:

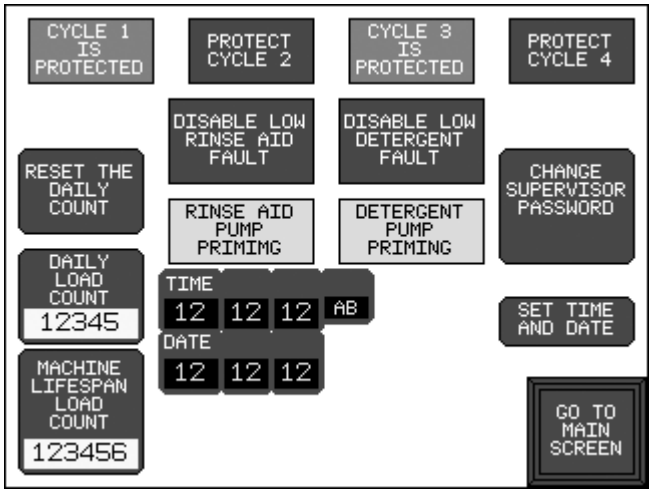
- Make sure that the dispensers contain a sufficient supply of detergent or rinse-aid.
- Make sure the end of the dispenser's tubing/float switch assembly is properly inserted into the correct liquid supply container.

Prime a Dispenser Pump

Use this procedure when the supply is initially set up, when you change the liquid supply, or any time the dispenser tubing is empty.

1. Insert the float switch assembly into the dispenser's liquid supply container.
2. On the Main panel, touch SUPERVISOR AND SERVICE SCREEN.
   The System Adjust Password numeric keypad panel appears.
3. Type the password and touch Enter.
   The Supervisor panel appears.

Figure 3–10. Supervisor Panel



4. On the panel, touch the PRIME RINSE AID PUMP or PRIME DETERGENT PUMP button.
   The button's label changes to RINSE AID/DETERGENT PUMP PRIMING.
5. When the liquid supply is discharged into the outlet tubing, touch the button again to stop the priming action.
6. Repeat steps 4 and 5 to prime the other dispenser.
7. Touch GO TO MAIN SCREEN to return to the Main panel.

Supervisor Operations

Programming a Cycle

The washer enables you to select from four independent processing cycles. These cycles are preset with the time and temperature values listed in Table 3–2 below. You can retain these values or change them as desired to meet your specific needs.

Table 3–2. Factory Preset Cycles

PHASE VALUE	CYCLE			
	1	2	3	4
Wash Time (seconds)	120	120	120	30
Wash Temperature (°F)	150	150	150	40
Rinse Time (seconds)	30	30	30	10
Exhaust Time (seconds)	60	60	60	10
Drying Time (seconds)	900	900	900	10
Drying Temperature (°F)	220	220	220	50
Floor Tilt	Off	Off	Off	Off
Tank Cycle Count	10	10	10	10

NOTE ▶

Most of the initial settings for Cycle 4 are below the minimum setpoints and are used for testing during setup and installation. If you change these out-of-range values, you cannot recover them.

To program a cycle.

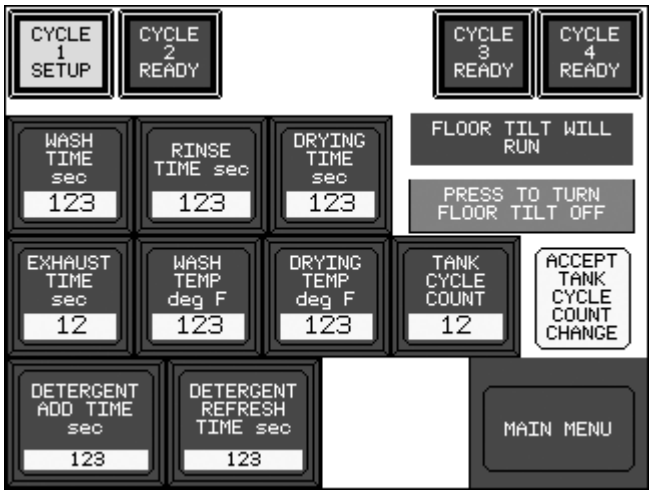
1. On the Main panel, touch CYCLE REVIEW AND PROGRAM.

NOTE ▶

You can only program a cycle that is not protected. If the cycle that you want to program is protected, the button label will be CYCLE REVIEW ONLY. You must change it to unprotected using the Supervisor panel (refer to “Protect or Unprotect a Cycle” on page 3-19).

2. The Cycle Setup panel (Figure 3–11) appears.

Figure 3–11. Cycle Setup Panel



3. If necessary, touch one of the CYCLE READY buttons to select the cycle you want to program.
   The TIME and TEMP buttons display the current setpoint values for the phases of the selected cycle.
   Table 3–3 lists the time and temperature values that are allowed for each phase.

Table 3–3. Cycle Setup Values

PHASE/FEATURE	TIME	TEMPERATURE
WASH	60 to 900 seconds (1 to 15 minutes)	140 to 185 °F
RINSE	60 to 300 seconds (1 to 5 minutes)	The rinse water temperature can only be set by service personnel.
DRYING	60 to 900 seconds (1 to 15 minutes)	200 to 240 °F
EXHAUST	0 to 99 seconds	Does not apply.
DETERGENT ADD	1 to 900 seconds	
DETERGENT REFRESH	1 to 900 seconds	
TANK CYCLE COUNT	1 to 20 cycles	

NOTE

For more information about setting the DETERGENT ADD TIME and DETERGENT REFRESH TIME values, refer to "Detergent Time Calculations" on page B-1.

For each value that you want to change:

4. Touch the button for the setpoint.
   The numeric keypad panel for that setpoint appears.
5. Type the new value, touch Enter, and then touch Done.
6. Repeat steps 4 and 5 for each setpoint that you want to change.
7. To turn the floor tilt feature on or off, touch PRESS TO TURN FLOOR TILT ON or PRESS TO TURN FLOOR TILT OFF, respectively.
8. To change the tank cycle count, touch TANK CYCLE COUNT.
   The numeric keypad panel for that setpoint appears.
9. Type the new value, touch Enter, and then touch Done.
10. Repeat steps 3 through 9 to program other cycles.
11. Touch MAIN MENU.
    The Main panel appears.

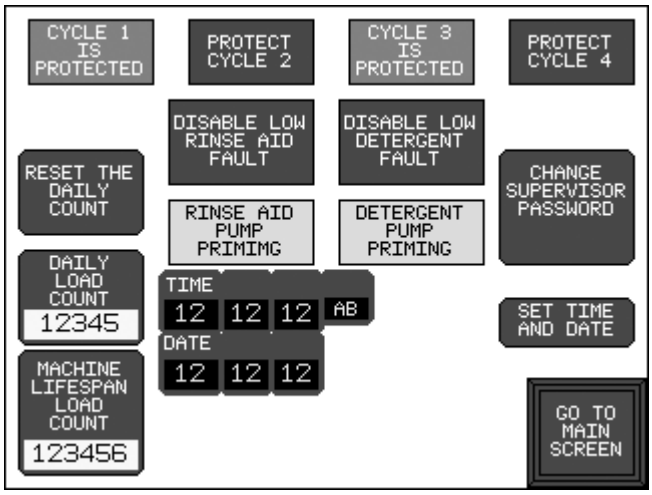
Disable Low Dispenser Supply Faults

The washer reports an error if the detergent or rinse aid supplies run low. If this fault is not disabled, the washer will not start the next cycle until you refill the appropriate liquid supply and reset the fault. You can override this error condition using the DISABLE LOW RINSE AID FAULT and DISABLE LOW DETERGENT FAULT buttons on the Supervisor panel.

The washer runs if either the RINSE AID or DETERGENT FAULT OVERRIDE is set. Operating the washer without these chemicals reduces the washer's cleaning ability.

1. On the Main panel, touch SUPERVISOR AND SERVICE SCREEN.
   The Supervisor Password numeric keypad panel appears.
2. Type the password and touch Enter.
   The Supervisor panel appears.

Figure 3–12. Supervisor Panel



3. Touch DISABLE LOW RINSE AID FAULT or DISABLE LOW DETERGENT FAULT, or both, to disable the faults.

NOTE

When the faults are disabled, the dispenser indicators on the Main, Cycle Setup, Cycle Review, and In Cycle panels display DETERGENT/RINSE AID LOW FAULT OVERRIDE ON.

4. Touch GO TO MAIN SCREEN.
   The Main panel appears.

Prime the Liquid Dispensers

Refer to “Prime a Dispenser Pump” on page 3-13.

Change the Supervisor Password

To change the supervisor password.

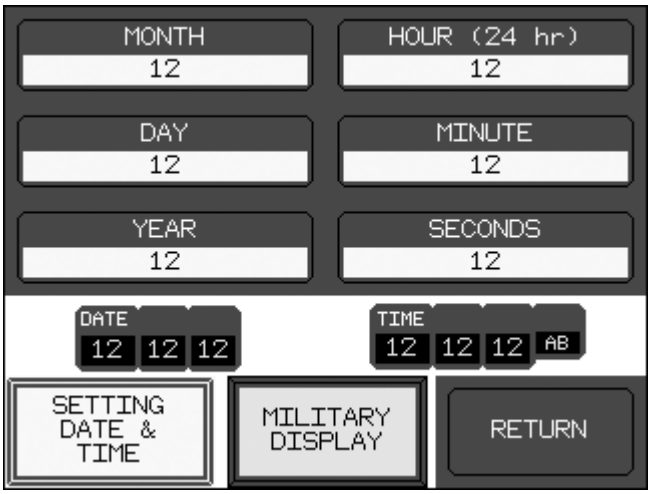
1. On the Main panel, touch SUPERVISOR AND SERVICE SCREEN.
   The Supervisor Password numeric keypad panel appears.
2. Type the password and touch Enter.
   The Supervisor panel (Figure 3–12 on page 3–17) appears.
3. Touch CHANGE SUPERVISOR PASSWORD.
   A numeric keypad panel appears.
4. Type the numeric password (1 to 30000) and touch Enter.
   The changed password appears above the keypad.
5. Touch Done.
   Your change is saved and the Supervisor panel appears.
6. Touch GO TO MAIN SCREEN.
   The Main panel appears.

Set the Time and Date

To program the time and date for the washer.

1. On the Main panel, touch SUPERVISOR AND SERVICE SCREEN.
   The Supervisor Password numeric keypad panel appears.
2. Type the password and touch Enter.
   The Supervisor panel (Figure 3–12 on page 3–17) appears.
3. Touch SET TIME AND DATE.
   The Time and Date panel (Figure 3–13) appears.

Figure 3–13. Time and Date Panel



The panel displays the date and time currently set for the washer. For each value that you want to change:

4. Touch the button for the value you want to change.
   The numeric keypad panel for that value appears.
5. Type the new value, touch Enter, and then touch Done.
6. Repeat steps 4 and 5 for each value that you want to change.
7. If desired, touch the STANDARD DISPLAY/MILITARY DISPLAY button to toggle from one to the other.
8. Touch SET DATE AND TIME.
   Your changes are saved and you are returned to the Supervisor panel.
9. Touch GO TO MAIN SCREEN.
   The Main panel appears.

Reset the Daily Load Count

To reset the load count.

1. On the Main panel, touch SUPERVISOR AND SERVICE SCREEN.
   The System Adjust Password numeric keypad panel appears.
2. Type the password and touch Enter.
   The Supervisor panel (see Figure 3–12 on page 3–17) appears.
3. Touch RESET THE DAILY COUNT.
   The counter is reset to 0.
4. Touch GO TO MAIN SCREEN.
   The Main panel appears.

Protect or Unprotect a Cycle

To change a cycle to either protected or unprotected.

1. On the Main panel, touch SUPERVISOR AND SERVICE SCREEN.
   The System Adjust Password numeric keypad panel appears.
2. Type the password and touch Enter.
   The Supervisor panel (see Figure 3–12 on page 3–17) appears.
3. Touch the desired CYCLE button to toggle the cycle between protected and not protected.
4. Touch GO TO MAIN SCREEN.
   The Main panel appears.

Section 4 Maintenance

General Maintenance Schedule

The customer is responsible for the following maintenance items at the intervals specified. Optional items may require additional maintenance.

Table 4–1. Maintenance Schedule — Standard

Maintenance Item	Interval	See Page:
• Loading Printer Paper (option)	When Required	4-2
• Inspect and Clean Washer Surfaces • Check Liquid Supplies • Clean the Holding Tank Debris Screen	Daily	4-2 4-2 4-2
• Clean the Screen on the Return Pump Low Suction Collar	Weekly	4-3
• Flush Spray Manifold • Check Spray Manifold Supply Hoses • Check Dispenser Pump/Tubes • Descale the Sump	Monthly	4-4 4-4 4-4 4-5
• Check and Clean Steam Traps • Check and Clean Y-Strainers	Every 6 Months	4-6 4-6

PERFORMANCE ASSURANCE PLAN

Preventive maintenance performed by factory-trained service representatives, using authorized parts and service techniques, is recommended. Recognizing symptoms of potential trouble and making corrections immediately is less costly and time consuming than repairing damaged equipment. Our Performance Assurance Plan offers scientific maintenance, not merely repair service.

For quality service on this equipment and information on our Performance Assurance Plan, contact Getinge/Castle, Inc. 1777 East Henrietta Road, Rochester, NY 14623-3133 or call 1-800-950-9912.

A Service Manual and a Parts Catalog for this unit may be purchased from Getinge/Castle, Inc.

Routine Maintenance Schedule

When Required

Loading Printer Paper

See “Paper Roll Loading” on page A-2.

Daily

Inspect and Clean Washer Surfaces

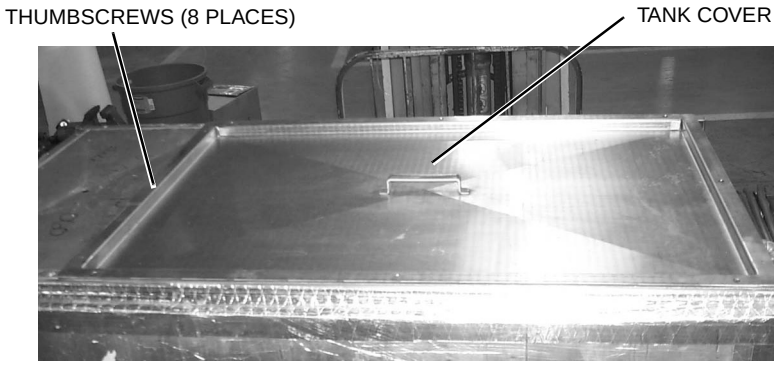
1. Inspect the exterior and interior surfaces of the washer.
2. Clean with mild detergent and a soft, damp cloth.

Check Liquid Supplies

1. Check the detergent and rinse-aid supply containers.
2. Refill or replace if required.

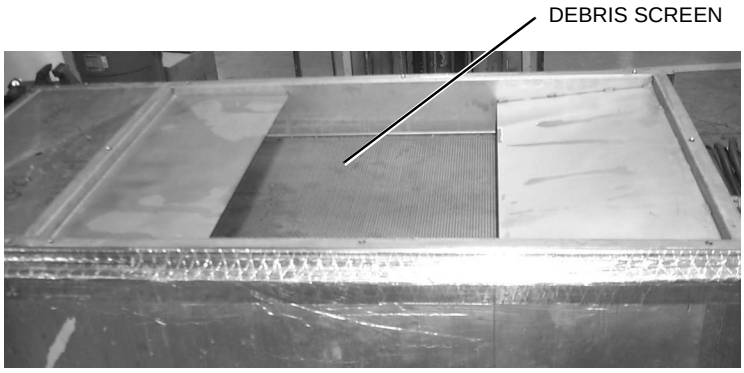
Clean the Holding Tank Debris Screen

Figure 4–1. Holding Tank Cover



1. Remove and retain the eight thumbscrews securing the cover to the tank and use the handle to remove the cover.

Figure 4–2. Holding Tank Debris Screen



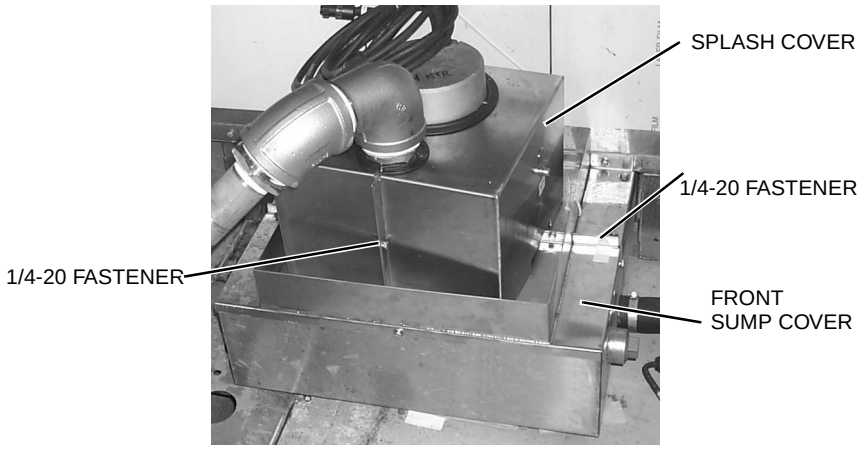
2. Lift the debris screen out of the holding tank.

3. Clean the screen by rinsing with water.
4. Align the hole for the fill pipe and place the screen back in the holding tank.
5. Secure the cover to the holding tank with the thumbscrews.

Weekly

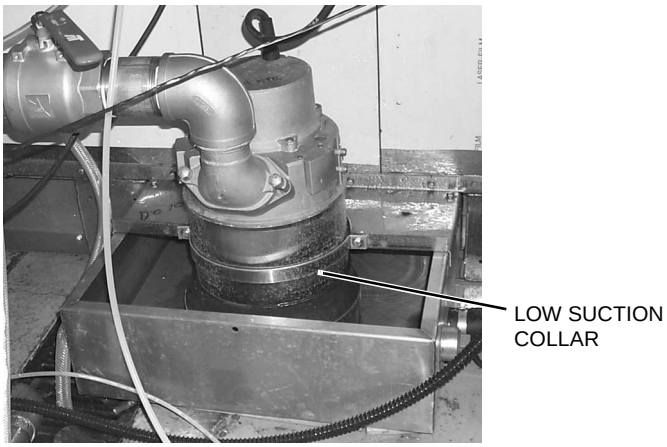
Clean the Screen on the Return Pump Low Suction Collar

Figure 4–3. Remove Return Pump Covers



1. Remove the two 1/4-20 fasteners that secure the left and right sides of the splash cover and remove the cover.
2. Remove the two 1/4-20 fasteners that secure the front sump cover and remove the cover.

Figure 4–4. Return Pump Low Suction Collar



3. Slide the low suction collar up out of the sump and wipe away any debris that is built up on the screen.
4. Place the collar back down into the sump and replace the covers.

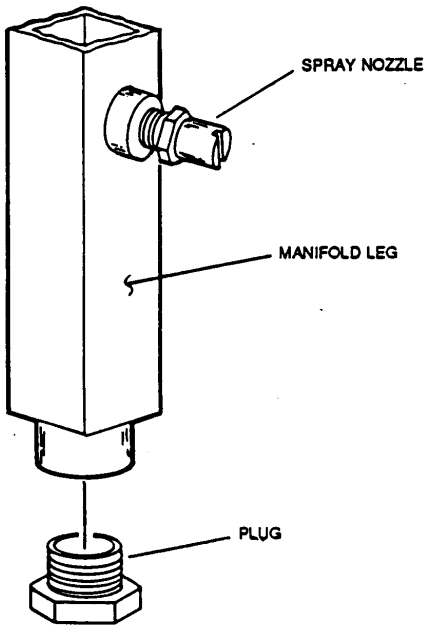
Monthly

Flush Spray Manifold

Flushing the Spray Manifold removes any fine debris that may have accumulated in the assembly due to the recirculation of wash/rinse water during routine operation.

1. Remove the hex head plug from the bottom of each manifold leg.

Figure 4–5. Manifold Leg



2. Run a processing cycle with the compartment empty.
3. Reassemble the hex head plugs to the manifold legs.

Check Spray Manifold Supply Hoses

1. Check the spray manifold supply hoses for heat cracks, cuts, or other evidence of deterioration.
2. If replacement is required, notify qualified service personnel.

Check Dispenser Pump/Tubes

1. Check the pump rollers and the supply tubing on the detergent and rinse-aid dispensers.
2. If components show evidence of wear, notify qualified service personnel for replacement.

Descale the Sump

Descale the sump and steam heating coil surfaces to prevent a buildup of mineral deposits. Contact your Getinge/Castle Service Technician for an appropriate scale remover and follow the directions for its use.

1. Select a cycle and re-program it as follows:
    a. Turn the detergent and rinse-aid dispensers off. If necessary, refer to “Programming a Cycle” on page 3-14.
    b. Set the DRYING time to the minimum setpoint (60 seconds).
    c. Set the WASH time and temperature according to the descaler manufacturer’s recommendations.
    d. Set the RINSE time for the recommended descaler flushing (300 seconds maximum).
2. Drain any water from the sump.
3. Open the washer door and add descaler to the sump.
4. Close the door and start the descaling cycle. Descaling occurs during the WASH phase of this cycle. Flushing occurs during the RINSE phase.
5. Run a few more cycles, using both wash and rinse water, to ensure a complete flush of the descaler.
6. After flushing is complete, turn the dispensers back on and re-program the cycle.
7. Replace the floor grate and tread.

Every Six Months

Check and Clean Steam Traps

1. Check all steam traps.

NOTE ▶

This task should be performed by qualified service personnel.

2. Clean if required.

Check and Clean Y-Strainers

1. Check the filter screens in all plumbing supply lines.

NOTE ▶

This task should be performed by qualified service personnel.

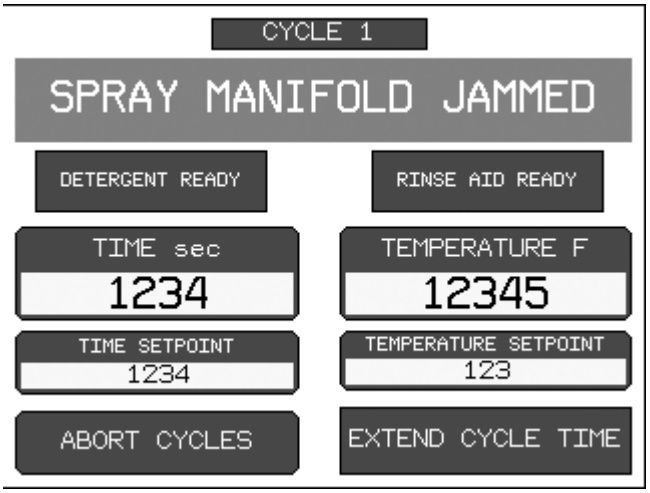
2. Clean if required.

Section 5 Troubleshooting

Error Messages

Error conditions that cause a processing cycle to stop are reported on a message panel as illustrated in Figure 5–1 below.

Figure 5–1. Processing Error Message



The panel reports the current status of the processing cycle along with the error. For record purposes, the current load count is displayed. There is also a FAULT RESET button that, in a few cases, enables you to reset the error and restart the cycle.

Most faults first require a change or fix to a defective component. Once the problem has been corrected, you can then use the FAULT RESET button to clear the error.

Resetable Error Messages

A list of resetable error messages is provided in Table 5–1 below.

Table 5–1. In-Cycle Resetable Error Messages

MESSAGE	COLOR	EXPLANATION
DRAIN TIME EXCEEDED	Red	Most likely, there is a clogged drain.
DRYER TEMPERATURE TIMEOUT	Red	There is a problem with the steam supply.
FLOOR POSITION FAILURE	Red	There is a jammed floor panel or a bad switch.
LEFT/RIGHT EMERGENCY CORD BROKEN	Red	The emergency stop cable is broken or has come loose.
MACHINE FAULTED CORRECT FAULT AND PRESS FAULT RESET	Red	There is a problem that you must correct before you can continue to use the washer.
SPRAY MANIFOLD JAMMED	Red	An item from the load has jammed the manifold.
SUMP DRAIN TIMEOUT	Red	There is a clog in the drain.
TANK/WASH FILL TIMEOUT	Red	There is a problem with the water supply.
TANK LEVEL FAULT	Red	The tank level has dropped below the low level sensor because water is not being returned to the tank.
WASH DRAIN TIMEOUT	Red	There is a clog in the drain.
WASH TANK HAS FAILED TO MAINTAIN TEMPERATURE	Red	There is a problem with the steam supply.
WASH TEMPERATURE TIMEOUT	Red	There is a problem with the steam supply.

To recover from an error:

1. Fix the problem that was causing the error position. On the Main panel, touch FAULT RESET.
   The alarm goes off.

2. Touch START to start the cycle again.

If the condition persists and the message occurs again:

1. Set the CONTROL POWER ON OFF/RESET switch to OFF.
2. Notify qualified service personnel.

Non-resetable Error Messages

A list of non-resetable error messages is provided in Table 5–2 below.

Table 5–2. In-Cycle Non-resetable Error Messages

BOOSTER TEMPERATURE ZONE FAILURE
DRYER 1/2 TEMPERATURE ZONE FAILURE
DRYER BLOWER 1/2 MOTOR OVERLOAD
MULTIPLE TEMPERATURE ZONE FAILURES
RECIRCULATION PUMP MOTOR OVERLOAD
RINSE PUMP OVERLOAD
RINSE TEMPERATURE ZONE FAILURE
TANK FILL TEMPERATURE ZONE FAILURE
TANK TEMPERATURE ZONE FAILURE
WASH PUMP MOTOR OVERLOAD

The FAULT RESET button on the message panel does not work when this type of message occurs.

1. Set the CONTROL POWER ON OFF/RESET switch to OFF.
2. Notify qualified service personnel.

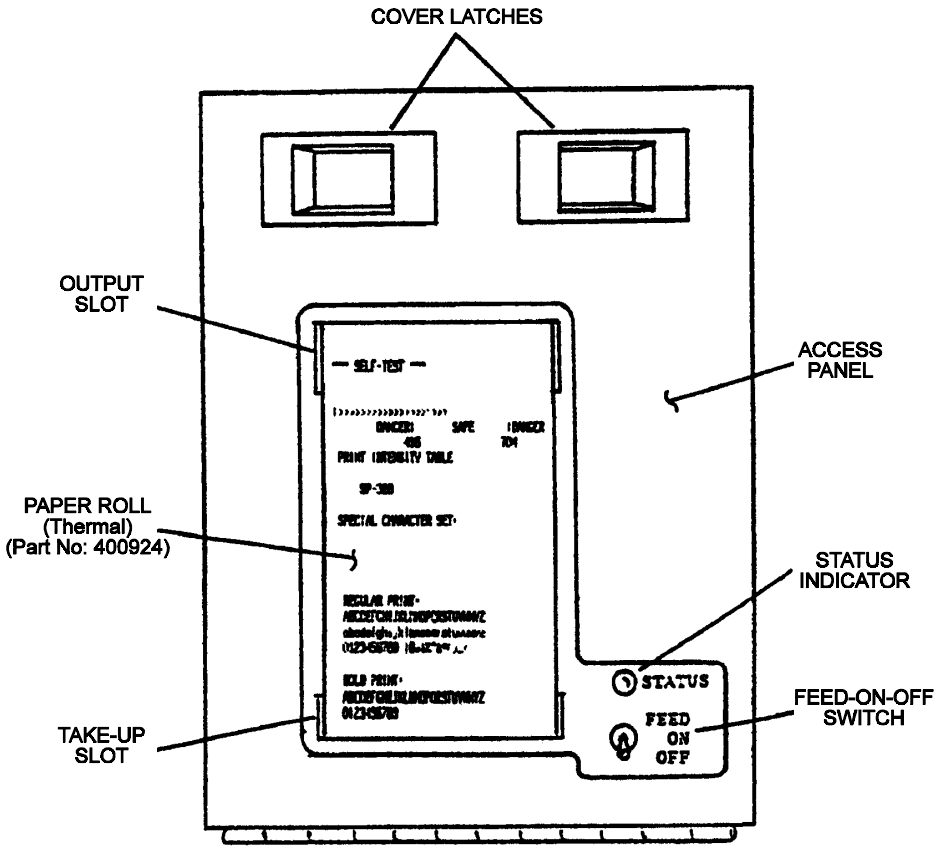
Appendix A Recorder/Printer

The optional recorder/printer provides a record of pertinent cycle data for each processing cycle that runs on the washer. Pertinent data includes cycle identification, programmed phase setpoints, phase performance, date, and time.

The recorder/printer is equipped with a thermal array print head that is capable of printing at a paper feed rate of 1.3 inches per second. The use of this type of print head eliminates the need for print ribbon cartridges.

Description

Figure A–1. Recorder/Printer



Refer to Figure A–1.

FEED/ON/OFF Switch Turns the recorder/printer on and off. When you hold the switch in the FEED position, the switch rapidly advances the paper through the recorder/printer.

STATUS Indicator The indicator lights:

- green when the recorder/printer is turned on.
- green/yellow when the paper roll supply is low.
- yellow when the paper roll supply is empty.

Paper Roll Carries the printed record of cycle data. One roll is 100 feet long by 2.35 inches wide.

Output Slot Issues the paper after it has passed through the printer.

Input Slot Channels the paper to the printer's take-up roll.

Access Panel Permits access to the printer. The panel is latched at the top and hinged at the bottom.

Cover Latches Secure the access panel to its mounting frame. Pushing the spring-loaded latches toward each other releases the panel for access to the printer.

Paper Roll Loading

If the paper roll runs out, the status indicator displays a yellow light and the printer sounds an intermittent alarm. Refer to Figure A–2.

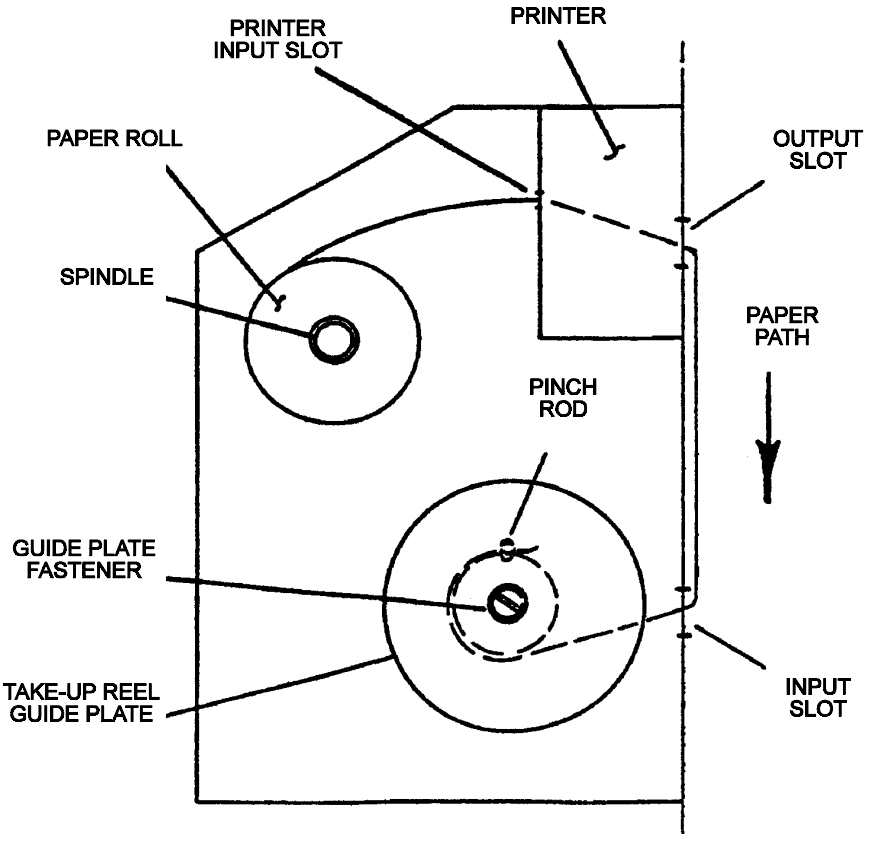
NOTE

Do not operate the printer without paper. If replacement rolls are not available, turn the printer OFF.

1. Set the FEED ON OFF switch to ON.
2. Push the spring-loaded cover latches inward to release the access cover and open the printer.
3. Install a new paper roll (thermal side facing out) on the paper roll spindle.
4. Fold the end of the paper back on itself to form a straight and clean edge.
5. Insert the end of the paper into the printer input slot.
   The printer automatically feeds the end of the paper through the parenthood mechanism.
   The automatic feed stops after about an inch of paper has issued through the output slot.

6. Turn the FEED ON OFF switch to the FEED position and hold until approximately 12 inches of paper is discharged from the output slot.
7. Run the end of the paper through the access cover's input slot and wrap it around the take-up reel.
8. Reassemble the guide plate onto the take-up reel, aligning the pinch rod with the pinch rod slot so that it captures the paper and holds it securely to the reel.
9. After reassembly, manually rotate the reel clockwise to take up any slack in the paper.
10. Close the access door.

Figure A–2. Paper Roll Loading



Operation

Operation of the recorder/printer is automatic and does not require the attention of personnel other than for routine replacement of the paper roll (see page A–2).

NOTE

- *Do not operate the printer without paper.*
- *The final few feet of a paper roll are shaded red to indicate that the supply is running out. You should replace the roll when the shading appears.*

Self-Test

To initiate a diagnostic self-test:

1. Set the FEED ON OFF switch to OFF.
2. Move the switch back through the ON position to the FEED position, hold it there for several seconds, and then release the switch.

Feeding Paper without Self-Test

To feed paper through the printer without initiating a self-test:

1. Move the FEED ON OFF switch from the ON position to the FEED position and hold.
2. When desired, release the switch to stop the paper feed.

NOTE

Do not switch from the OFF position straight to the FEED position or a self-test occurs.

Appendix B Liquid Dispenser Setup

Successful cleaning of equipment by your washer depends on having the recommended amounts of detergent and rinse aid solution in the wash and rinse phases. This appendix provides instructions to ensure that the appropriate quantities of these solutions are used.

Detergent Time Calculations

Refer to Table B–1 on page B-3.

In order to determine the appropriate DETERGENT ADD TIME and DETERGENT REFRESH TIME values for your washer, you have to calculate the rate at which your detergent dispenser pumps detergent to the circulation tank.

1. Calculate the detergent dispenser flow rate:
    a. Ensure that the detergent dispenser is primed and that liquid detergent is visible in the tubing at the discharge into the tank.
    If necessary, refer to “Prime a Dispenser Pump” on page 3-13.
    b. Disconnect the detergent dispenser tubing from the fitting on the tank and place the tubing into a graduated cylinder.
    c. Use the PRIME DETERGENT PUMP button on the Supervisor panel to run the pump for a specified time (1 minute, for example).
    If necessary, refer to “Prime a Dispenser Pump” on page 3-13.
    d. Measure the volume of liquid that was dispensed into the graduated cylinder.
    e. Calculate the flow rate (volume / time) of the dispenser. Record your answer in Table B-1.

The DETERGENT ADD TIME parameter on the Cycle Setup panel is the period that the detergent dispenser should run during a tank refill to reach the desired concentration of detergent in a full tank.

The tank has a capacity of 105 gallons. The DETERGENT ADD TIME can be calculated easily from this value, the calculated flow rate of the detergent dispenser, and the concentration recommended by the detergent manufacturer.

2. Calculate the quantity of detergent to pump into the tank to reach the recommended concentration:
   Multiply the recommend concentration by the volume of the tank (105 gallons).
   Record your answer in Table B-1.
3. Then calculate the length of time to run the detergent dispenser to pump that amount of detergent:
   Divide the quantity of detergent you calculated in step 2 by the flow rate of the pump (your answer for step 1).
   Record your answer in Table B-1. This is the DETERGENT ADD TIME value that you provide on the Cycle Setup panel.

The tank is refreshed with water during the rinse and drying phases. During the rinse phase, all spent rinse water is returned to the tank from the sump. During the drying phase, the tank is replenished with the water taken from the output of the two condensers.

Rinse water is pumped at a steady rate of 10 gallons per minute. Condenser water runs at a rate of 5 gallons per minute for a period of 6 minutes at the beginning of each drying phase. Consequently, 30 gallons are returned to the tank during each drying phase.

The DETERGENT REFRESH TIME can be calculated from the dispenser flow rate, the quantity of fresh water returned to the tank during the rinse and drying phases, and the concentration recommended by the detergent manufacturer.

4. Calculate the amount of water returned to the tank during the rinse phase:
   Multiply the rinse time by the rinse water rate (10 gallons per minute).
   Record your answer in Table B-1.
5. Calculate the total quantity of water returned to the tank during the rinse and drying phase:
   Add the rinse water (your answer for step 4) to the condenser water (30 gallons).
   Record your answer in Table B-1.
6. Calculate the amount of detergent to add to the tank for each cycle:
   Multiply the amount of replenished water (your answer for step 5) by the recommended detergent concentration.
   Record your answer in Table B-1.
7. Calculate the DETERGENT REFRESH TIME.
   Divide the quantity of detergent (your answer for step 6) by the flow rate of the pump (your answer for step 1).
   Record your answer in Table B-1. This is the DETERGENT REFRESH TIME value that you provide on the Cycle Setup panel.

Table B–1. Detergent Calculations

STEP	EXAMPLE	RESULT
1. Calculate dispenser flow rate: *Qty pumped / time*	8 oz / 1 min = 0.13 oz/sec	
2. Calculate quantity of detergent to get full tank (105 gal) to recommended concentration: *Rec. conc. x 105 gal*	0.4 oz x 105 gal = 42 oz	
3. Calculate DETERGENT ADD TIME: *(step 2 answer) / flow rate*	42 oz / 0.13 oz/sec = 323 sec	
DETERGENT ADD TIME = _____ seconds		
4. Calculate water returned to tank during rinse phase: *rinse time x 10 gal/min*	(30 sec = 0.5 min) 0.5 min x 10 gal/min = 5 gal	
5. Calculate total water returned during cycle: *(step 4 answer) + 30 gal*	5 gal + 30 gal = 35 gal	
6. Calculate quantity of detergent to add to returned water: *(step 5 answer) x rec. conc.*	35 gal x 0.4 oz/gal = 14 oz	
7. Calculate DETERGENT REFRESH TIME: *(step 6 answer) / flow rate*	14 oz / 0.13 oz/sec = 108 sec	
DETERGENT REFRESH TIME = _____ seconds		

Rinse Aid Dispenser Calibration

Refer to Table B–1 on page B-3.

Rinse aid solution is injected directly into the rinse water. The desired flow rate of the rinse aid dispenser can be calculated from the concentration recommended by the rinse aid manufacturer and from the rinse water rate (10 gallons per minute).

1. Calculate the desired rinse aid dispenser flow rate.

   Multiply the recommended rinse aid concentration by the rinse water rate.
   Record your answer in Table B-2.

The dial on the front of the rinse aid dispenser enables you to adjust the flow rate of the dispenser. After you calculate the flow rate of the dispenser, you can use this dial to adjust the flow rate to ensure that the correct amount of rinse aid solution is injected into the rinse water.

If you have not yet used the rinse aid dispenser, set the dial to 22% as a starting point.

The rinse aid dispenser must be running when you adjust the dial. Adjusting the dial when the dispenser is not running can damage the dispenser.

2. Calculate the actual rinse aid dispenser flow rate.
   a. Fill a graduated cylinder about 3/4 full with rinse aid solution and record the amount in the cylinder.
   b. Ensure that the rinse aid dispenser is primed and that rinse aid solution is visible in the tubing at the rinse aid injector fitting.
      If necessary, refer to “Prime a Dispenser Pump” on page 3-13.
   c. Remove the float switch/suction tube from the rinse aid supply and place into the graduated cylinder.
   d. Use the PRIME RINSE AID PUMP button on the Supervisor panel to run the pump for a specified time (10 minutes, for example).
      If necessary, refer to “Prime a Dispenser Pump” on page 3-13.
   e. Remove the tube from the graduated cylinder and measure the volume of liquid that was pumped out of the cylinder.

f. Calculate the flow rate (volume / time) of the dispenser. Record your answer in Table B-1.

The rinse aid dispenser must be running when you adjust the dial. Adjusting the dial when the dispenser is not running can damage the dispenser.

3. If necessary, adjust the dial and repeat step 2.

Table B–2. Rinse Aid Calculations

STEP	EXAMPLE	RESULT
1. Calculate desired dispenser flow rate: *Rec. conc. x rinse water rate*	0.031 oz/gal x 10 gal/min = 0.31 oz/min	
2. Calculate actual dispenser flow rate: *Qty pumped / time*	3 oz / 10 min = 0.3 oz/min	

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